

Safety Data Sheet

NEOGARD FC ALIPHATIC URETHANE CURING AGENT FC7964



Conforms to ANSI Z400.1-2010 Standard - HCS 2012

Protective Clothing	General Hazard	DOT

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : NEOGARD FC ALIPHATIC URETHANE CURING AGENT
Product identity : 949JB00000, FC7964
Product type : Curing agent

1.2 Relevant identified uses of the substance or mixture and uses advised against

Field of application : used only as part of two- or multi component products.
Ready-for-use mixture : Used for: 47QJB, 47RJB, 47TJB
Identified uses : Industrial/Professional use
TSCA : **Unless otherwise stated. All components are listed or exempted.**

1.3 Details of the supplier of the safety data sheet

Company details : NEOGARD, a Division of Hempel (USA), Inc.
2728 Empire Central
Dallas, TX 75235
Phone number: 1-214-353-1600
E-mail: hempel@hempel.com

1.4 Emergency telephone number (with hours of operation)

For Transportation Emergencies : CHEMTREC: **1-800-424-9300** (Toll-free in the U.S., Canada and the U.S. Virgin Islands) **703-527-3887**
(24 hours) For calls originating elsewhere (Collect calls are accepted). Contract number: CCN10384
To preserve the effectiveness of arrangements for providing accurate and timely emergency response information, the basic identifying information (shipper name or contract number) must be included on shipping papers.
If the purchaser of this product is going to be shipping this product to other locations, the purchaser must arrange for its own Emergency Information Provider to respond to transport incidents. Hempel's 24 hour response contract does not cover non-Hempel shipments.
For all other information : In USA toll free calling available: 1-800- 678-6641 or (936)-523-6000
(8 AM - 5 PM CST) See Section 4 of the safety data sheet (first aid measures).

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
GHS Classification : FLAMMABLE LIQUIDS - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms :



Signal word :

Danger

Hazard statements :

H227 - Combustible liquid.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 - May cause respiratory irritation.
H373 - May cause damage to organs through prolonged or repeated exposure. (lungs)

Precautionary statements :

Prevention :

Wear protective gloves, protective clothing and eye or face protection. Wear respiratory protection. Keep away from flames and hot surfaces. No smoking. Use only outdoors or in a well-ventilated area. Do not breathe vapor, mist or spray. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response :

Get medical advice or attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. Take off contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Storage :

Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal :

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements :

None known.

2.3 Other hazards

Hazards not otherwise classified : None known.

SECTION 3: Composition/information on ingredients

Product definition :

Mixture

Physical state :

Liquid.

Product/ingredient name	Identifiers	%	GHS Classification
homopolymer of hexamethylene diisocyanate	28182-81-2	≥25 - ≤50	ACUTE TOXICITY (inhalation) - Category 4 RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Isocyanurate of isophorone diisocyanate	53880-05-0	≥10 - ≤25	SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Solvent naphtha (petroleum), light arom.	64742-95-6	≥3 - ≤5	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
n-butyl acetate	123-86-4	≥1 - ≤3	ASPIRATION HAZARD - Category 1 FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	≤1.8	ACUTE TOXICITY (inhalation) - Category 1 SKIN CORROSION - Category 1C

SECTION 3: Composition/information on ingredients

			SERIOUS EYE DAMAGE - Category 1 RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
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Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4: First aid measures

4.1 Description of first aid measures

General :	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).
Eye contact :	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. In all cases of doubt, or when symptoms persist, seek medical attention.
Inhalation :	Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Give nothing by mouth. If unconscious, place in recovery position and get medical attention immediately.
Skin contact :	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
Ingestion :	If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting unless directed to do so by medical personnel. Lower the head so that vomit will not re-enter the mouth and throat.
Protection of first-aiders :	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact :	No known significant effects or critical hazards.
Inhalation :	Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact :	May cause an allergic skin reaction.
Ingestion :	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact :	No specific data.
Inhalation :	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma
Skin contact :	Adverse symptoms may include the following: irritation redness
Ingestion :	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician :	If gasses have been inhaled, from the decomposition of the product, symptoms may be delayed.
Specific treatments :	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Extinguishing media : Recommended: alcohol resistant foam, CO₂, powders, water spray.
Not to be used: waterjet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials: carbon oxides nitrogen oxides

5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid all direct contact with the spilled material. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8. No action shall be taken involving any personal risk or without suitable training. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.2 Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material.

6.3 Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Contains isocyanates. Exposure to isocyanate may result in acute irritation and/or sensitisation when breathing.

Care should be taken when re-opening partly-used containers.

Avoid inhalation of vapour, dust and spray mist. Avoid contact with skin and eyes. Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Appropriate personal protective equipment: see Section 8. Always keep in containers made from the same material as the original one.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations for flammable liquids. Store in a cool, well-ventilated area away from incompatible materials and ignition sources. Keep out of the reach of children. Keep away from: Oxidizing agents, strong alkalis, strong acids as well as of amines, alcohols and water. No smoking. Prevent unauthorized access. Containers that are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

SECTION 7: Handling and storage

See separate Product Data Sheet for recommendations or industrial sector specific solutions.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Product/ingredient name	Exposure limit values
Solvent naphtha (petroleum), light arom. n-butyl acetate	<p>ACGIH TLV (United States). TWA Tentative: 25 ppm 8 hours.</p> <p>NIOSH REL (United States, 10/2020). TWA: 150 ppm 10 hours. TWA: 710 mg/m³ 10 hours. STEL: 200 ppm 15 minutes. STEL: 950 mg/m³ 15 minutes.</p> <p>OSHA PEL (United States, 5/2018). TWA: 150 ppm 8 hours. TWA: 710 mg/m³ 8 hours.</p> <p>ACGIH TLV (United States, 1/2022). STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	<p>ACGIH TLV (United States, 1/2022). TWA: 0.005 ppm 8 hours.</p> <p>NIOSH REL (United States, 10/2020). Absorbed through skin. STEL: 0.18 mg/m³ 15 minutes. STEL: 0.02 ppm 15 minutes. TWA: 0.045 mg/m³ 10 hours. TWA: 0.005 ppm 10 hours.</p> <p>OSHA PEL (United States, 5/2018). Absorbed through skin. TWA: 5 mg/m³, (as CN) 8 hours.</p>

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8.2 Exposure controls

Appropriate engineering controls

Provide local exhaust and general ventilation systems to maintain airborne concentrations below OSHA, ACGIH, and manufacturer recommended exposure limits. Local exhaust ventilation is preferred because it prevents contaminant dispersion into work areas by controlling it at its source. Use local and general exhaust ventilation to effectively remove and prevent buildup of mists/vapors/fumes generated from the handling of this product.

Note: Local exhaust ventilation is designed to capture an emitted contaminant at or near its source, before the contaminant has a chance to disperse into the workplace air. General exhaust ventilation, also called dilution ventilation, is different from local exhaust ventilation because instead of capturing emissions at their source and removing them from the air, general exhaust ventilation allows the contaminant to be emitted into the workplace air and then dilutes the concentration of the contaminant to an acceptable level (e.g., to the PEL or below).

Individual protection measures

General :	Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. Safety eyewear should be used when there is a likelihood of exposure.
Hygiene measures :	Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.
Eye/face protection :	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Hand protection :	Wear chemical-resistant gloves in combination with 'basic' employee training. The quality of the chemical-resistant protective gloves must be chosen as a function of the specific workplace concentrations and quantity of hazardous substances.

SECTION 8: Exposure controls/personal protection

Since the actual work situation is unknown. Supplier of gloves should be contacted in order to find the appropriate type. Below listed glove(s) should be regarded as generic advice:

Recommended: Silver Shield / Barrier / 4H gloves, polyvinyl alcohol (PVA), Viton®, nitrile rubber
May be used: neoprene rubber, butyl rubber
Short term exposure: natural rubber (latex), polyvinyl chloride (PVC)

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved handling this product.

Respiratory protection : If working areas have insufficient ventilation, wear half or totally covering mask equipped with gas filter of type Organic Vapor, when grinding use particle filter of type P95, P99 or P100. When spraying use a combined filter (organic vapor / HEPA or organic vapor / P100 type). Be sure to use approved/certified respirator or equivalent. Always wear an air-fed respirator when spraying in a continuous and prolonged work situation (e.g. hood with supply of fresh or compressed air or a full face, powered air purifying filter).

Protective clothing (pictograms) :



Note: Application of paint products by spraying requires additional safety precautions: Full body suit, Full face respirator with air supplied.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state :	Liquid.
Color :	Clear
Odor :	Solvent-like
pH :	Testing not relevant or not possible due to nature of the product.
Melting point/freezing point :	-39.85°C This is based on data for the following ingredient: homopolymer of hexamethylene diisocyanate
Boiling point/boiling range :	Testing not relevant or not possible due to nature of the product.
Flash point :	Closed cup: 69°C (156.2°F)
Evaporation rate :	Testing not relevant or not possible due to nature of the product.
Flammability :	Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and oxidizing materials.
Upper/lower flammability or explosive limits :	0.6 - 10.7 vol %
Vapor pressure :	0 kPa This is based on data for the following ingredient: homopolymer of hexamethylene diisocyanate
Vapor density :	Testing not relevant or not possible due to nature of the product.
Relative density :	1.124 g/cm ³
Partition coefficient (LogKow) :	Testing not relevant or not possible due to nature of the product.
Auto-ignition temperature :	Testing not relevant or not possible due to nature of the product.
Decomposition temperature :	Testing not relevant or not possible due to nature of the product.
Viscosity :	Testing not relevant or not possible due to nature of the product.
Explosive properties :	Slightly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge.
Oxidizing properties :	Testing not relevant or not possible due to nature of the product.

9.2 Other information

SECTION 9: Physical and chemical properties

Solvent(s) % by weight (Included exempt solvent(s)):	10.5 % (w/w)
Water % by weight :	Weighted average: 0 %
VOC content (Coatings) :	0.982 lbs/gal (117.7 g/l)
VOC content (Regulatory) :	0.982 lbs/gal (117.7 g/l)
TOC Content (Volatile) :	Weighted average: 54 g/l
Solvent Gas :	Weighted average: 0.02 m³/l

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

No specific data.

10.5 Incompatible materials

Highly reactive or incompatible with the following materials: oxidizing materials.

10.6 Hazardous decomposition products

When exposed to high temperatures (i.e. in case of fire) harmful decomposition products may be formed:

Decomposition products may include the following materials: carbon oxides nitrogen oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Exposure to component solvent vapor concentrations may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headaches, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Accidental swallowing may cause stomach pain. Chemical lung inflammation may occur if the product is taken into the lungs via vomiting.

Isocyanate containing products have characteristics that include producing acute irritation and/or sensitisation when breathing, subsequent asthmatic problems and lung contractions. Sensitised people can, as a result from this, show asthmatic symptoms with exposure to atmospheric concentrations far below the TLV. Repeated exposures will lead to permanent damage to the respiratory system.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
homopolymer of hexamethylene diisocyanate	LC50 Inhalation Dusts and mists	Rat	18500 mg/m³	1 hours
	LC50 Inhalation Dusts and mists	Rat	1.5 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Isocyanurate of isophorone diisocyanate	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
	LD50 Oral	Rat	>20000 mg/kg	-
Solvent naphtha (petroleum), light arom.	LC50 Inhalation Vapor	Rat	6193 mg/m³	4 hours
	LD50 Dermal	Rabbit	3160 mg/kg	-
	LD50 Oral	Rat	3492 mg/kg	-

SECTION 11: Toxicological information

n-butyl acetate	LC50 Inhalation Vapor LD50 Dermal LD50 Oral	Rat Rabbit Rat	>21 mg/l >14112 mg/kg 10768 mg/kg	4 hours - -
3-isocyanatomethyl- 3,5,5-trimethylcyclohexyl isocyanate	LC50 Inhalation Dusts and mists LD50 Oral	Rat - Male, Female Rat	0.03 mg/l 4825 mg/kg	4 hours -

Acute toxicity estimates

Route	ATE value
Inhalation (dusts and mists)	1.2 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure
homopolymer of hexamethylene diisocyanate	Respiratory - Mild irritant	Rabbit	-	-
Isocyanurate of isophorone diisocyanate	Skin - Mild irritant	Rabbit	-	-
	Eyes - Mild irritant	Rabbit	-	-
Solvent naphtha (petroleum), light arom.	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters
n-butyl acetate	Respiratory - Mild irritant	Rabbit	-	-
	Skin - Moderate irritant	Rabbit	-	-
	Eyes - Mild irritant	Rabbit	-	-
	Respiratory - Mild irritant	Rabbit	-	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
homopolymer of hexamethylene diisocyanate	skin	Mouse	Sensitizing
Isocyanurate of isophorone diisocyanate	skin	Guinea pig	Sensitizing

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
homopolymer of hexamethylene diisocyanate	Category 3		Respiratory tract irritation
Isocyanurate of isophorone diisocyanate	Category 3		Respiratory tract irritation
Solvent naphtha (petroleum), light arom.	Category 3		Respiratory tract irritation
n-butyl acetate	Category 3		Narcotic effects
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Category 3		Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
homopolymer of hexamethylene diisocyanate	Category 2	inhalation	lungs

Aspiration hazard

Product/ingredient name	Result
Solvent naphtha (petroleum), light arom.	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential chronic health effects

Sensitization : Contains homopolymer of hexamethylene diisocyanate, Isocyanurate of isophorone diisocyanate, 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, hexamethylene-di-isocyanate. May produce an allergic reaction.

SECTION 11: Toxicological information

Other information : No additional known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Do not allow to enter drains or watercourses. Harmful to aquatic life with long lasting effects.

When spilled, this product may act as an oil, causing a film, sheen, emulsion, or sludge at or beneath the surface of a body of water. Oils of any kind can cause: (a) drowning of waterfowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility; (b) lethal effect on fish by coating gill surfaces, preventing respiration; (c) potential fish kills resulting from alteration in biochemical oxygen demand; (d) asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom; and (e) adverse aesthetic effects of fouled shoreline and beaches.

Product/ingredient name	Result	Species	Exposure
Solvent naphtha (petroleum), light arom.	Acute EC50 2.6 mg/l	Algae - Pseudokirchneriella subcapitata (green algae)	96 hours
	Acute EC50 3.2 mg/l	Daphnia	48 hours
	Acute LC50 9.22 mg/l	Fish - Oncorhynchus mykiss (rainbow trout)	96 hours
n-butyl acetate	Acute EC50 648 mg/l	Algae	72 hours
	Acute EC50 44 mg/l	Daphnia	48 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
homopolymer of hexamethylene diisocyanate	OECD 301C Ready Biodegradability - Modified MITI Test (I)	2 % - Not readily - 28 days	-	-
Isocyanurate of isophorone diisocyanate	OECD 301F Ready Biodegradability - Manometric Respirometry Test	0 % - Not readily - 28 days	-	-
Solvent naphtha (petroleum), light arom.	OECD 301F Ready Biodegradability - Manometric Respirometry Test	78 % - Readily - 28 days	-	-
n-butyl acetate	-	>70 % - Readily - 28 days	-	-
	-	>60 % - Readily - 28 days	-	-
	-	90 % - Readily - 28 days	-	-
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	OECD 301D Ready Biodegradability - Closed Bottle Test	80 % - Readily - 5 days	-	-
	OECD	0 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
homopolymer of hexamethylene diisocyanate	-	-	Not readily
Isocyanurate of isophorone diisocyanate	-	-	Not readily
Solvent naphtha (petroleum), light arom.	-	-	Readily
n-butyl acetate	-	-	Readily
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
homopolymer of hexamethylene diisocyanate	5.54	367.7	low
Solvent naphtha (petroleum), light arom.	-	10 - 2500	high
n-butyl acetate	2.3	3.1	low
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	0.99	-	low

12.4 Mobility in soil

SECTION 12: Ecological information

Soil/water partition coefficient (K_{oc}): No known data available in our database.

Mobility: No known data available in our database.

12.5 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7 and Section 8 for additional handling information and protection of employees.

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Transport may take place according to national regulation or DOT for transport by road and by train, IMDG for transport by sea, IATA for Air shipment. Refer to specific Dangerous Goods Transport requirements under 49CFR, ICAO and IATA.

	14.1 UN no.	14.2 Proper shipping name	14.3 Transport hazard class(es)	14.4 PG*	14.5 Env*	Additional information
DOT Code	Not regulated.					
TDG Code	Not regulated.					
SCT Code	Not regulated.					
IMDG Code	Not regulated.					
IATA Code	Not regulated.					

Code : Classification

PG* : Packing group

Env.* : Environmental hazards

14.6 Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations :

All components are active or exempted.

TSCA 8(a) PAIR: 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are active or exempted.

TSCA 8(c) calls for record of SAR: 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; hexamethylene-di-isocyanate

Clean Water Act (CWA) 307: 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; hexamethylene-di-isocyanate

Clean Water Act (CWA) 311: n-butyl acetate

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Listed

Product/ingredient name	CAS number	Concentration
2-(2-butoxyethoxy)ethyl acetate	124-17-4	4.525
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	1.5
hexamethylene-di-isocyanate	822-06-0	0.125

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304 :

Product/ingredient name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	≤1.8	Yes.	500	56.7	500	56.7

SARA 304 RQ :

33333.3 lbs / 15133.3 kg [3556.8 gal / 13463.8 L]

SARA 311/312 Classification :

FLAMMABLE LIQUIDS - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Product/ingredient name	%	Classification
homopolymer of hexamethylene diisocyanate	≥25 - ≤50	ACUTE TOXICITY (inhalation) - Category 4 RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Isocyanurate of isophorone diisocyanate	≥10 - ≤25	SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Solvent naphtha (petroleum), light arom.	≥3 - ≤5	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
n-butyl acetate	≥1 - ≤3	ASPIRATION HAZARD - Category 1 FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	≤1.8	ACUTE TOXICITY (inhalation) - Category 1 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SARA 313 :

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

SECTION 15: Regulatory information

Form R - Reporting requirements :

Product/ingredient name	CAS number	Concentration
2-(2-butoxyethoxy)ethyl acetate	124-17-4	3 - 5
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	1 - 3

Supplier notification :

Product/ingredient name	CAS number	Concentration
2-(2-butoxyethoxy)ethyl acetate	124-17-4	3 - 5
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	1 - 3

State regulations :

Connecticut Carcinogen Reporting: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Substances: The following components are listed: BUTYL ACETATE; ISOPHORONE DIISOCYANATE
Massachusetts Spill: None of the components are listed.
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: GLYCOL ETHERS; n-BUTYL ACETATE; ISOPHORONE DIISOCYANATE
New York Hazardous Substances: The following components are listed: Butyl acetate; Isophorone diisocyanate
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: ACETIC ACID, BUTYL ESTER; CYCLOHEXANE, 5-ISOCYANATO-1-(ISOCYANATOMETHYL)-1,3,3-TRIMETHYL-
Rhode Island Hazardous Substances: None of the components are listed.

This product does not require a Safe Harbor warning under California Prop. 65.

SECTION 16: Other information

Remarks : Note: In USA, consult Code of Federal Regulations, Title 29, Labor, Parts 1910 and 1915 concerning occupational safety and health standards and regulations, as well as any other applicable Federal, State or local regulations that apply to safe practices in coating operations.
 Warning! If you scrape, sand, or remove old paint, you may release lead dust. LEAD is TOXIC.

Validation : Validated by US - HSE Products Coordinator on 7 October 2022

GHS Classification

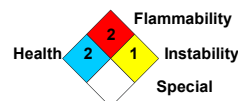
Procedure used to derive the classification.

Classification	Justification
FLAMMABLE LIQUIDS - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

Hazardous Material Information System (U.S.A.)



National Fire Protection Association (U.S.A.)



Personal Protective Equipment (PPE) shown in this section is a suggestion. Since conditions vary from one work location to another consult the facility safety & health program. Customer or end user is responsible to evaluate worker exposure conditions at the site of application and determine the appropriate PPE suitable for workers at that particular facility or location.

Abbreviations and acronyms :

SECTION 16: Other information

ANSI = American National Standards Institute

HCS = Hazardous Communication System

TSCA = Toxic Substances Control Act

CFR = Code of Federal Regulations

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

OSHA = United States Occupational Health and Safety Administration

NIOSH = National Institute for Occupational Safety and Health

ACGIH = American Conference of Industrial Hygienists

IARC = International Agency for Research on Cancer.

NTP = National Toxicology Program

ATE = Acute Toxicity Estimate

OECD = Organisation for Economic Co-operation and Development

BCF = Bioconcentration Factor

DOT = United States Department of Transportation

ERG = Emergency Response Guide

TDG = Transport of Dangerous Goods, Canada

SCT = Transportation & Communications Ministry, Mexico

IMDG = International Maritime Dangerous Goods

IATA = International Air Transport Association

SARA = Superfund Amendments Reauthorization Act

EPCRA = Emergency Planning and Community Right to Know Act

Notice to reader

 Indicates information that has changed from previously issued version.

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.